

A laboratory report is one form of a larger collection of reports referred to as technical reports. An important aspect of these types of reports is the section called the Apparatus and Procedures section. Other possible names for this section are Experimental Methods or Experimental Program. Key questions (1, p16) that are answered for the reader by this section of a technical report are listed below. Specific information shared with the reader in answering these questions is suggested in the subcategories of the list below (2, p 416).

1. What instruments or apparatus are used to collect the data?
 - a. Imagine someone else was going to purchase or build your setup; what is going to be on their shopping list?
 - b. Sketches of objects, setups, supports, wiring connections, circuit schematics, block diagrams, etc.
 - c. Commercial equipment - manufacturer, model number, serial number
2. What is the method or procedure for collecting the data?
 - a. Imagine someone else is going to replicate your process; what process will they need to know to obtain the same data you collected?
 - b. For reading clarity, bulleted or numbered steps are often used
 - c. Cautionary notes can be included for safety considerations and for difficult or problematic steps
3. What is the expected uncertainty in the data collection considering all known sources?
 - a. Bias sources, sample listing includes
 - i. Zero
 - ii. Linearity
 - iii. Calibration of equipment
 1. Calibration may be a procedure you have completed as a part of the experiment or
 2. Calibration may be assumed based on manufacturer's specifications
 - b. Precision sources, sample listing includes
 - i. Scale readability
 - ii. Repeatability

References:

1. S. Jeter and J. Donnell, *Writing Style and Standards in Undergraduate Reports*, Glen Allen, Virginia: College Publishing, 2004.
2. A. Wheeler and A. Ganji, *Introduction to Engineering Experimentation*, 2nd ed. Upper Saddle River, New Jersey: Pearson/Prentice Hall, 2004.